

AMENDMENTS TO THE CLAIMS

Claims 1-11 (Cancelled)

Claim 12 (New) A process for the oxidation of organic substrates by means of $^1\text{O}_2$, which consists essentially of adding 30-70% strength H_2O_2 to hydrophobic organic substrates which react with $^1\text{O}_2$ in a monohydric $\text{C}_1\text{-C}_8$ alcohol as a solvent in the presence of a homogeneous molybdate catalyst, whereupon H_2O_2 is catalytically decomposed to give water and $^1\text{O}_2$, oxidizing said substrate to the corresponding oxidation products with precipitation of the catalyst, removing said precipitated catalyst by centrifugation or filtration and recycling said catalyst to said oxidation.

Claim 13 (New) The process as claimed in claim 12, wherein the substrates which react with $^1\text{O}_2$ are olefins which contain 1 to 10 $\text{C}=\text{C}$ double bonds; $\text{C}_6\text{-C}_{50}$ phenols, polyalkylbenzenes, polyalkoxybenzenes; polycyclic aromatics having 2 to 10 aromatic rings; alkyl sulfides, alkenyl sulfides, aryl sulfides which are either mono- or disubstituted on the sulfur atom, and $\text{C}_4\text{-C}_{60}$ heterocycles having an O, N or S atom in the ring, which may be unsubstituted or may be mono- or polysubstituted by halogens, cyanide, carbonyl groups, hydroxyl groups, $\text{C}_1\text{-C}_{50}$ alkoxy groups, $\text{C}_1\text{-C}_{50}$ alkyl groups, $\text{C}_6\text{-C}_{50}$ aryl groups, $\text{C}_2\text{-C}_{50}$ alkenyl groups, $\text{C}_2\text{-C}_{50}$ alkynyl groups, carboxylic acid groups, ester groups, amide groups, amino groups, nitro groups, silyl groups, silyloxy groups, sulfone groups, sulfoxide groups or by one or more NR^1R^2 radicals in which R^1 or R^2 may be identical or different and are H; $\text{C}_1\text{-C}_{50}$ alkyl; formyl; $\text{C}_2\text{-C}_{50}$ acyl, $\text{C}_7\text{-C}_{50}$ benzoyl, where R^1 and R^2 may also together form a ring.

Claim 14 (New) The process of claim 12, wherein the reaction temperature is between 0 and 50°C .

Claim 15 (New) The process of claim 13 wherein the reaction temperature is 15 to 35°C .

Claim 16 (New) The process of claim 12 wherein 2 to 10 equivalents of H_2O_2 are used depending on the substrate used.